

IEHA Wastewater Management Committee
Guidance Document
Septic System Selection – 11/04/2005

Once you have interpreted a soil report, you will need to decide which type of septic system can be installed in the site under consideration. This document is designed to help new environmental health specialists use the criteria in Rule 410 IAC 6-8.1 to make that decision.

I. Information You Will Need

- A. Soil loading rates and depth of the limiting layer, from the soil report.
- B. Topographic position of the site in the landscape, also from soil report.
- C. Number of bedrooms plus bedroom equivalents in the house. A bedroom equivalent is any room that measures forty-five square feet or more, contains a closet, and has at least one operable window or exterior door for emergency exit or rescue. (IC 16-19-3-4) For purposes of sizing a septic system, a jetted bathtub with a capacity of 125 gallons or more will be treated as an additional bedroom.

II. Subsurface systems are preferred

- A. Check to see that these criteria for subsurface systems are all present:

1. The ground slope is 15% or less.
2. The topographic position is convex, hill slope, or flat. A toe slope may be used if proper drainage can be installed.
3. The loading rate for all horizons from the surface to a depth of 24 inches below the trench bottoms is not less than 0.25 gpd/square ft and not more than 1.20 gpd/square ft.
4. There is sufficient area for the absorption field (see below).
5. If a seasonal high water table is present, it must be possible to lower it through drainage. The final water table must be at least 24 inches below the bottoms of all the proposed trenches.

- B. Compute the design flow and area required for the system.

1. Design flow = (number of bedrooms + equivalents)(150 gpd)
2. Trench Area required = $\frac{\text{Design flow}}{\text{Loading Rate}^*}$

(*Use the loading rate of the most restrictive horizon within 24 inches of the proposed trench bottoms.)

- C. A gravity feed system may be used if:

1. The design flow is < 450 gpd (i.e., a one or two-bedroom house) and:
 - a. The loading rate is between 0.25 and 0.75 gpd, inclusive and:
 - b. The trench bottoms are at least 24 inches above the limiting layer and:

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- c. The absorption field contains less than 500 lineal feet of trenches.
 2. The design flow is 450 gpd or more (a three-BR or larger house) and:
 - a. The loading rate is between 0.25 and 0.75 gpd, inclusive and:
 - b. The trench bottoms are at least 30 inches above the limiting layer and:
 - c. The absorption field contains no more than 500 lineal feet of trenches.
 - D. A dosed or alternating-field in-ground system may be used if all the following conditions apply:
 1. Loading rate is between 0.25. and 0.75, inclusive.
 2. The trench bottoms are at least 24 inches above the limiting layer.
 3. If the absorption field contains more than 500 lineal feet of trenches, a dosed system is required. Four-bedroom and larger homes generally must have a dosed system.
 - E. A pressure distribution system must be used if any soil horizon within 24 inches of the proposed trench bottom has a loading rate of 1.20 gpd.
- III. Sand mound systems may be used in some cases where in-ground systems are not feasible. The following conditions must be met:
- A. There is sufficient room to build the sand mound.
 - B. The system site has a slope of 6% or less.
 - C. The topography of the site is convex, hill slope, or flat. A toe slope may be used if proper drainage can be designed.
 - D. No soil layer within 20 inches of the surface has a loading rate of less than 0.25; no layer within 20 inches of the surface has a loading rate of more than 1.20.
 - E. Any seasonal high water table can be lowered to deeper than 20 inches.
 - F. Room exists for a suitable dispersal area below the mound (see 410 IAC 6-8.1-51).